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09/819,793	03/29/2001	Ulf Velten	003780-052	2640

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EXAMINER
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WILSON, DONALD R

ART UNIT	PAPER NUMBER
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1713

DATE MAILED: 10/08/2003

14

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/819,793

Applicant(s)

VELTEN ET AL.

Examiner

Donald R Wilson

Art Unit

1713

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 04 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-48 is/are pending in the application.
- 4a) Of the above claim(s) 12-19, 22, 23, 30 and 31 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11, 20, 21, 24-29, 32-37 and 39-48 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6. 6) ☐ Other:

Art Unit: 1713

**DETAILED ACTION**

**DETAILED ACTION**

***Restriction Requirement***

1. As acknowledged in the previous Office Action applicant has elected with traverse the inventions of Group I, now Claims 1-11, 20-37 and 39-48, in Paper No. 10. The traversal was deemed not to be persuasive and the requirement was deemed proper and therefore made FINAL. Claims 12-19 and 38 have been withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention.

***Response to Election of Species Requirement***

2. Applicant's election with traverse in Paper No. 13 is acknowledged of the specie of the invention wherein the monomeric units of the claimed acrylic polymer are:

- a. acrylic acid monomer units as represented by formula A in Claim 2,
- b. polyethyleneglycol monomethyl ether acrylate ester monomer units as represented in formula B in Claim 2,
- c. no monomer units as represented by C in Claim 2, and
- d. acrylamide monomer unit derived from dicyclohexylamine as represented by formula D in Claim 2.

Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)). It is further to be noted that applicant's statement that the election is made for search purposes only is in error. The election is made for both search and examination purposes, and as previously pointed out,

"Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141."

Should the generic claim not be found to be allowable, additional species will not be examined. If applicant were to insist on the proviso "for search purposes only" the election would be considered to be non-responsive.

Art Unit: 1713

2. Claims 22-23 and 30-31 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected specie of the invention.

**Objection to Claims**

3. **Claim 1 is objected to because of the following informalities: Previously amended Claim 1 in the listing of Claims in the amendment of 8/4/03 is objected to because it includes bracketed material from the amended claim.** Appropriate correction is required.

**Objection to Drawings**

4. **Applicant is required to submit a proposed drawing correction in reply to this Office action for the reasons set forth in PTO Form 948 sent to applicant with Paper No. 8, mailed on 3/14/03.**

However, formal correction of the noted defect may be deferred until after the examiner has considered the proposed drawing correction. Failure to timely submit the proposed drawing correction will result in the abandonment of the application.

**Claim Rejections - 35 USC § 112, Second Paragraph**

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. **Claims 1-11, 20-21, 24-29, 32-37 and 39-48 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.**

7. The language of Claim 1 is indefinite for the following reasons:

- a. In line 1, "obtainable" needs to be changed to "obtained", otherwise it is indefinite as to whether or not the polymer is obtained by the specified process.
- b. The molecular weight limitation of A-1 is indefinite because it is unclear as to whether this is supposed to be an average molecular weight, and if so the basis of the average, or whether it is an absolute range of molecular weights in a mixture of molecules. This could be overcome by specifying a number average molecular weight such as is used in the later claims.

Art Unit: 1713

c. The terms "and/or optionally (C)" and "and/or optionally (D)" make the claim indefinite because "(B)" is a required component. This could be overcome by changing "and/or optionally" to "and optionally". Note that this language is used twice in the claim.

d. The language defining  $R^1$ ,  $R^2$  and  $R^3$  is indefinite for several reasons. First, it is not known what is meant by "rest" as in "aliphatic rest" and "aromatic rest". Presumably, this was a translation error and applicant means "group" and the claim should be so amended. The use of "may" and "may be" also makes the claim indefinite which can be overcome by deleting both occurrences of "may" and substituting "is" for "be". The phrase "or another ring systems containing at least one hetero atom like nitrogen, sulfur or oxygen" also makes the claim indefinite because the ring system must already contain one nitrogen atom. Further, it is unclear what atoms are considered to be "like nitrogen, sulfur or oxygen". The terminology "can represent" is also indefinite. This can be overcome by using the language "optionally represent".

In *Ex parte Cordova*, 10 USPQ2d 1949 (Bd. Pat. App. & Inter. 1989) the language "containing A, B, and optionally C" was considered acceptable alternative language because there was no ambiguity as to which alternatives are covered by the claim. A similar holding was reached with regard to the term "optionally" in *Ex parte Wu*, 10 USPQ2d 2031 (Bd. Pat. App. & Inter. 1989).

e. A clear meaning of the language "--- following a certain kinetic influenced by ----" etc. is not discernible. If what is meant is that the degree of reaction is influenced by the ratio of the reactive components presence and the temperature, then language to that effect should be used.

f. The languages of "low", "medium" and "high" slopes and initial water reductions are indefinite because these terms are relative and do not define definite metes and bounds.

8. The language of Claim 2 is indefinite for essentially the same reasons as outlined above for Claim 1.

9. The languages of Claims 3, 4, 5, 6, 7, 8, 9 and 10 are indefinite because of the use of the word "obtainable" making it unclear as to whether or not the modified polymer has or has not been obtained. This can be overcome by saying "obtained" as opposed to "obtainable".

Art Unit: 1713

***Claim Rejections - 35 USC § 102(b/e)/§ 103(a)***

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

13. ***Claims 1-11, 20-21, 24-29, 32-37 and 39-48 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as obvious over Hirata'038.***

14. Hirata'038 discloses copolymers of polyethylene glycol monomethyl ether acrylate ester and acrylic acid (e.g., col. 3, line 14 to col. 4, line 3, col. 5, lines 9-17, and 31-36). The ratios of the two monomers are specifically taught as 1-99/99-1, preferably 50-99/50-1, more preferably 60-95/40-5 and most preferably 70-95/30-5 (col. 8, lines 41-49). The weight average molecular weight of the copolymer is taught to be 5,000 to 200,000 and preferably 10,000 to 100,000. Although applicant's claims are in terms of the number average molecular weight, given reasonable and expected values of molecular

Art Unit: 1713

dispersity the molecular weight limitations overlap. The number of repeating units of alkylene oxide in the polyethyleneglycol monomethyl ether acrylate ester is 1-300, or more preferably 5-100 (col. 5, lines 19-29), the latter being within the molecular weight limitations of the instant claims. While the copolymer is not made by the same method as applicants it is reasonable to expect that the claimed product is the same as it contains the same structural components.

When the prior art discloses a product which reasonably appears to be either identical with or only slightly different than a product claimed in a product-by-process claim it is appropriate for the examiner to make a rejection under both the applicable section of 35 USC 102 and 35 USC 103 such that the burden is placed upon applicant to provide clear and convincing factual evidence that the respective products do in fact differ in kind - *In re Brown*, 59 CCPA 1063, 173 USPQ 685 (1972); *In re Fessman*, 180 USPQ 324 (CCPA 1974) - and to come forward with evidence establishing unobvious differences between the claimed product and the prior art product. *In re Marosi* 218 USPQ 290.

15. **Claims 1-11, 20-21, 24-29, 32-37 and 39-48 are rejected under 35 U.S.C. 102(\*\*) as anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as obvious over EP'488.**

16. EP'488 discloses copolymers of polyethylene glycol monomethyl ether acrylate ester and acrylic acid (e.g., page 3, lines 18-45, page 5, lines 25-38 and 46-48). The ratios of the two monomers are specifically taught as 5-98/95-2, preferably 25-96/75-4, and more preferably 40-94/60-6 (page 6, lines 1-4). The weight average molecular weight of the copolymer is taught to be 10,000 to 500,000 and preferably 10,000 to 100,000. Although applicant's claims are in terms of the number average molecular weight, given reasonable and expected values of molecular dispersity the molecular weight limitations overlap. This is particularly so as the peak top molecular weight subtracted from the weight average molecular weight is taught to be in the range of 0 to 8,000. At a value of 0 the number average molecular weight and the weight average molecular weight would be the same. The number of repeating units of alkylene oxide in the polyethyleneglycol monomethyl ether acrylate ester 1-100 or more preferably 5-100 (page 5, lines 43-45). As above, while the copolymer is not made by the same method as applicants it is reasonable to expect that the claimed product is the same as it contains the same structural components.

#### ***Allowable Subject Matter***

17. No prior art has been identified which either teaches or suggests the elected species of copolymers, i.e., a copolymer of acrylic acid, polyethyleneglycol monomethyl ether acrylate ester, and the

Art Unit: 1713

acrylamide monomer unit derived from dicyclohexylamine, or copolymers containing an acrylamide derived from other secondary amines as represented by applicant's molar unit "D". . The search and examination has been extended to copolymers not containing the molar unit "D", resulting in the above rejections.

***Art of Interest/Technological Background***

18. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Yamamoto and EP'850 cited by applicant also teach polyethyleneglycol monomethyl ether acrylate ester/acrylic acid copolymers within the range of the instant claims. However, the teachings are considered to be cumulative to the applied references. Hirata'114, Darwin, Shendy and Bury are also considered to be cumulative to the applied references. Kawasaki and Yamashita may be used in future rejections of non-elected species of the invention. Kawasaki also teaches direct esterification of polyacrylic acid with the alkoxypolyalkylene glycol (col. 4).

***Future Correspondence***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Donald R Wilson whose telephone number is 703-308-2398.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on 703-308-2450. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306. The unofficial direct fax phone number to the Examiner's desk is 703-872-9029.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 308-2351.

Donald R Wilson  
Primary Examiner  
Art Unit 1713